



UNIVERSIDAD NACIONAL DE COLOMBIA SEDE MANIZALES

OBSERVATORIOS AMBIENTALES PARA EL DESARROLLO URBANO SOTENIBLE EN MANIZALES

RED DE ESTACIONES HIDROMETEOROLÓGICAS PARA PREVENCIÓN DE DESASTRES DE MANIZALES



ESTACIÓN METEOROLÓGICA ARANJUEZ

CÓDIGO: EMM-07

OCTUBRE DE 2011

RESUMEN DIARIO Y MENSUAL DE VARIABLES METEOROLÓGICAS

Variables Día	Temperatura del Aire (°C)			V.V. (m/s)		P.B. (HPa)	Humedad Relativa (%)			LI. (mm)	Radiación Solar (W/m ²)		ET. (mm)
	Máxima	Media	Mínima	Máxima	Media	Media	Máxima	Media	Mínima	Suma	Máxima	Media	Suma
1	20.2	16.6	13.6	2.7	0.8	815.4	96.0	86.6	71.0	16.0	935.0	187.6	1.6
2	22.7	17.0	13.4	3.1	0.8	816.3	96.0	83.1	62.0	0.8	1310.0	311.4	2.5
3	24.0	17.7	14.4	4.5	0.9	815.8	94.0	82.1	56.0	4.4	1266.0	416.2	3.2
4	19.1	15.9	13.3	3.6	0.6	817.2	96.0	89.9	70.0	8.8	473.0	198.7	1.4
5	24.9	18.1	13.6	5.4	1.1	815.2	92.0	76.0	39.0	0.0	1264.0	581.5	4.5
6	24.2	18.0	13.8	4.9	1.1	814.3	97.0	79.4	53.0	18.0	1151.0	514.1	3.9
7	24.9	18.7	13.9	4.5	1.0	813.6	94.0	78.4	50.0	1.4	1171.0	491.5	3.9
8	19.4	16.6	14.9	4.5	0.8	814.9	97.0	89.1	73.0	8.2	629.0	177.1	1.3
9	21.9	17.5	14.8	4.0	0.6	815.2	93.0	82.2	67.0	0.0	954.0	253.0	2.0
10	20.3	16.9	14.3	4.9	0.7	816.4	98.0	86.1	66.0	36.6	1148.0	286.9	2.2
11	22.2	16.8	13.9	6.3	0.7	816.6	98.0	85.1	62.0	24.2	1146.0	292.3	2.1
12	20.9	16.2	13.9	4.0	0.8	817.9	98.0	89.2	68.0	20.8	833.0	280.5	2.0
13	23.2	17.5	13.3	4.9	1.1	815.9	98.0	78.7	52.0	0.8	986.0	543.4	4.2
14	23.7	16.4	13.1	6.3	1.0	815.7	95.0	83.9	58.0	24.2	1245.0	453.7	3.4
15	20.9	16.1	13.1	3.1	0.8	817.0	98.0	86.3	64.0	40.0	700.0	301.8	2.2
16	21.3	15.6	12.7	4.0	0.8	817.6	97.0	88.1	63.0	22.8	1032.0	280.5	2.1
17	19.6	14.8	13.6	4.0	0.6	817.9	98.0	93.6	70.0	26.4	1375.0	238.9	1.6
18	18.8	14.8	13.1	4.0	0.5	819.3	98.0	90.8	70.0	11.8	925.0	259.3	1.8
19	21.9	16.0	12.1	5.4	1.1	819.8	93.0	73.2	42.0	0.4	1290.0	453.5	3.6
20	20.6	16.0	12.4	3.6	1.0	819.8	85.0	65.9	39.0	0.0	749.0	273.0	2.4
21	22.2	16.3	12.8	4.0	0.8	818.2	90.0	71.8	43.0	0.0	1267.0	428.5	3.5
22	22.2	16.8	13.6	4.9	1.0	816.0	86.0	70.3	48.0	0.0	1141.0	443.6	3.6
23	23.9	16.9	11.7	4.5	1.0	815.8	95.0	76.4	53.0	13.0	1116.0	429.0	3.5
24	23.0	17.7	14.6	3.1	0.6	815.7	94.0	79.2	51.0	0.2	1187.0	432.6	3.3
25	22.3	17.6	14.0	4.5	0.6	814.8	96.0	81.9	59.0	5.0	1188.0	387.5	3.0
26	21.2	17.3	13.8	4.0	0.8	813.0	97.0	82.0	64.0	0.2	1246.0	351.8	2.6
27	23.7	18.0	13.3	4.5	1.0	812.2	89.0	77.6	56.0	0.0	1169.0	433.1	3.5
28	19.4	16.8	15.1	3.1	0.5	813.9	97.0	89.0	68.0	9.2	708.0	199.9	1.4
29	19.3	15.7	14.4	3.1	0.5	815.7	98.0	92.9	73.0	10.0	981.0	173.1	1.2
30	17.7	15.1	12.7	2.2	0.3	816.9	97.0	92.9	83.0	12.8	707.0	142.3	0.9
31	21.1	15.6	11.4	4.9	1.4	816.4	95.0	82.2	66.0	0.0	1134.0	436.2	3.3
Mensual	24.9	16.7	11.4	6.3	0.8	816.1	98.0	82.7	39.0	316.0	1375.0	343.6	81.5

Convenciones: V.V.: Velocidad del Viento P.B.: Presión Barométrica LI.: Lluvia diaria ET.: Evapotranspiración. Nota: Datos resaltados en rojo están incompletos.



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OCTUBRE DE 2011

JORNADA DIURNA - DIRECCIÓN DEL VIENTO SEGÚN LA ROSA DE LOS VIENTOS (Frecuencia relativa)

Día	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSO	SO	OSO	O	ONO	NO	NNO
1	0%	10%	1%	3%	2%	20%	10%	1%	1%	8%	12%	3%	6%	8%	12%	3%
2	4%	0%	7%	3%	3%	6%	2%	1%	3%	24%	8%	5%	7%	13%	5%	10%
3	0%	0%	1%	14%	1%	3%	7%	1%	3%	22%	20%	6%	10%	8%	1%	3%
4	1%	6%	3%	0%	0%	8%	6%	0%	0%	8%	13%	5%	10%	29%	11%	1%
5	0%	3%	3%	6%	6%	5%	4%	2%	1%	15%	15%	7%	8%	13%	6%	8%
6	0%	0%	4%	3%	6%	6%	10%	1%	9%	11%	18%	6%	7%	9%	8%	1%
7	0%	0%	3%	2%	4%	8%	5%	1%	7%	18%	14%	8%	11%	11%	7%	1%
8	1%	0%	3%	3%	5%	5%	1%	1%	2%	20%	17%	14%	8%	6%	10%	4%
9	10%	8%	2%	1%	6%	14%	0%	1%	4%	12%	13%	6%	6%	8%	8%	2%
10	3%	1%	15%	6%	1%	12%	7%	2%	1%	13%	21%	6%	6%	3%	3%	0%
11	1%	4%	1%	1%	6%	17%	1%	3%	5%	13%	16%	6%	8%	10%	6%	1%
12	1%	0%	13%	0%	0%	1%	0%	0%	1%	8%	16%	6%	20%	14%	16%	3%
13	0%	0%	2%	2%	9%	6%	6%	1%	1%	12%	18%	9%	14%	15%	6%	1%
14	3%	3%	1%	4%	4%	12%	2%	2%	7%	4%	8%	8%	14%	17%	6%	3%
15	0%	0%	1%	5%	6%	1%	4%	3%	1%	16%	18%	10%	15%	13%	8%	0%
16	18%	0%	2%	1%	3%	13%	7%	1%	1%	10%	14%	10%	7%	10%	3%	0%
17	0%	0%	1%	6%	1%	4%	3%	0%	1%	10%	5%	13%	13%	21%	17%	6%
18	0%	0%	0%	0%	0%	0%	0%	0%	3%	8%	11%	17%	13%	44%	3%	0%
19	1%	0%	4%	1%	3%	11%	7%	0%	4%	2%	11%	12%	14%	21%	8%	1%
20	1%	0%	1%	4%	12%	8%	6%	1%	1%	18%	23%	6%	8%	7%	4%	0%
21	0%	0%	5%	1%	2%	20%	8%	1%	1%	17%	13%	6%	10%	10%	6%	1%
22	1%	2%	7%	6%	3%	15%	4%	0%	6%	25%	12%	5%	6%	6%	2%	1%
23	1%	1%	5%	2%	15%	6%	2%	1%	3%	17%	13%	4%	14%	8%	5%	3%
24	0%	1%	0%	2%	0%	9%	4%	0%	2%	18%	19%	12%	8%	18%	6%	1%
25	0%	1%	3%	3%	2%	3%	1%	6%	3%	13%	18%	9%	17%	15%	4%	1%
26	1%	0%	1%	1%	13%	5%	10%	1%	1%	13%	26%	6%	8%	9%	7%	0%
27	0%	0%	3%	11%	10%	6%	1%	6%	3%	10%	17%	13%	6%	8%	5%	1%
28	0%	5%	19%	9%	0%	2%	1%	0%	1%	12%	22%	5%	10%	11%	2%	1%
29	0%	1%	4%	0%	1%	8%	1%	0%	5%	6%	12%	3%	4%	8%	13%	35%
30	1%	1%	3%	8%	5%	15%	1%	0%	0%	8%	8%	13%	10%	20%	8%	1%
31	0%	3%	9%	3%	9%	6%	3%	5%	0%	8%	12%	8%	12%	10%	10%	2%
Mensual	2%	2%	4%	4%	4%	8%	4%	1%	3%	13%	15%	8%	10%	13%	7%	3%

DIRECCIÓN DEL VIENTO EN EL MES ORDENADA DE MAYOR A MENOR PREDOMINANCIA																
R. V.	SO	ONO	SSO	O	ESE	OSO	NO	E	NE	SE	ENE	NNO	S	NNE	N	SSE
F. R.	15%	13%	13%	10%	8%	8%	7%	4%	4%	4%	4%	3%	3%	2%	2%	1%

Convenciones: R. V.: Rosa de los Vientos F. R.: Frecuencia Relativa. Nota: Datos resaltados en rojo están incompletos.



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OCTUBRE DE 2011

JORNADA NOCTURNA - DIRECCIÓN DEL VIENTO SEGÚN LA ROSA DE LOS VIENTOS (Frecuencia relativa)

DÍA	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSO	SO	OSO	O	ONO	NO	NNO
1	1%	1%	13%	9%	22%	47%	7%	1%	0%	0%	0%	0%	0%	0%	0%	0%
2	0%	4%	13%	15%	9%	17%	3%	0%	0%	0%	0%	0%	0%	39%	0%	0%
3	0%	2%	11%	15%	6%	29%	31%	1%	0%	1%	3%	0%	0%	0%	0%	0%
4	0%	1%	7%	9%	13%	47%	19%	0%	0%	0%	0%	0%	0%	5%	0%	0%
5	0%	1%	6%	13%	20%	46%	10%	1%	0%	0%	0%	0%	0%	0%	0%	3%
6	2%	0%	20%	14%	17%	24%	7%	1%	1%	0%	0%	0%	3%	2%	10%	0%
7	0%	0%	13%	24%	17%	21%	6%	3%	1%	1%	4%	0%	10%	1%	0%	0%
8	5%	7%	16%	6%	10%	16%	17%	1%	1%	9%	1%	0%	1%	1%	8%	1%
9	1%	27%	20%	11%	10%	24%	8%	0%	0%	0%	0%	0%	0%	0%	0%	0%
10	3%	10%	32%	6%	15%	19%	8%	1%	0%	1%	2%	0%	1%	0%	1%	1%
11	0%	1%	10%	15%	21%	28%	6%	0%	0%	0%	0%	0%	0%	0%	19%	0%
12	2%	0%	10%	13%	20%	16%	10%	1%	1%	0%	0%	0%	2%	4%	13%	8%
13	1%	1%	23%	7%	13%	10%	14%	2%	0%	4%	13%	0%	3%	1%	2%	6%
14	0%	3%	13%	8%	24%	30%	10%	1%	0%	0%	1%	1%	8%	0%	0%	0%
15	1%	10%	8%	8%	18%	26%	15%	1%	1%	0%	0%	0%	0%	6%	1%	5%
16	0%	0%	8%	6%	10%	16%	2%	0%	0%	2%	4%	9%	11%	10%	18%	3%
17	0%	5%	6%	6%	3%	43%	0%	0%	0%	0%	2%	0%	1%	21%	1%	12%
18	1%	2%	9%	41%	2%	3%	3%	0%	1%	4%	6%	2%	3%	9%	13%	1%
19	1%	4%	31%	22%	14%	19%	7%	0%	0%	0%	0%	1%	0%	0%	1%	1%
20	1%	1%	9%	13%	26%	28%	7%	6%	0%	0%	8%	0%	0%	0%	1%	0%
21	0%	0%	9%	18%	28%	35%	8%	2%	0%	0%	0%	0%	0%	0%	0%	0%
22	0%	10%	24%	6%	24%	28%	7%	0%	0%	0%	0%	0%	0%	0%	0%	0%
23	0%	1%	8%	11%	28%	43%	10%	0%	0%	0%	0%	0%	0%	0%	0%	0%
24	0%	0%	22%	9%	11%	4%	3%	1%	0%	0%	0%	0%	1%	19%	29%	0%
25	8%	0%	26%	1%	1%	3%	1%	0%	0%	0%	0%	1%	3%	2%	54%	0%
26	0%	3%	9%	4%	19%	22%	6%	0%	0%	0%	0%	0%	1%	8%	28%	0%
27	1%	1%	16%	19%	22%	28%	11%	1%	0%	0%	0%	0%	0%	0%	0%	0%
28	0%	0%	8%	1%	0%	3%	5%	9%	6%	2%	8%	3%	0%	35%	16%	6%
29	1%	1%	11%	5%	10%	15%	7%	0%	0%	0%	0%	0%	0%	0%	0%	50%
30	0%	2%	6%	10%	37%	39%	3%	0%	0%	4%	0%	0%	0%	0%	0%	0%
31	0%	1%	7%	14%	38%	32%	8%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Mensual	1%	3%	14%	12%	16%	25%	8%	1%	0%	1%	2%	1%	2%	5%	7%	3%

DIRECCIÓN DEL VIENTO EN EL MES ORDENADA DE MAYOR A MENOR PREDOMINANCIA																
R. V.	ESE	E	NE	ENE	SE	NO	ONO	NNE	NNO	SO	O	SSE	SSO	N	OSO	S
F. R.	25%	16%	14%	12%	8%	7%	5%	3%	3%	2%	2%	1%	1%	1%	1%	0%

Convenciones: R. V.: Rosa de los Vientos F. R.: Frecuencia Relativa. Nota: Datos resaltados en rojo están incompletos.